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(71) Applicant (for all designated States except US): THE REGENT OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, 12th Floor, Oakland, CA 94607-5200 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HUBER, Steven, C. [US/US]; 310 Floral Park Dr., Savoy, IL 61874 (US). LARABELL, Carolyn, A. [US/US]; 177 Diablo Drive, Oakland, CA 94611 (US). SEDEROFF, Heike, Winter [DE/US]; 4920 Liles Road, Raleigh, NC 27606 (US).

(74) Agents: CHEW, Michelle et al.; Lawrence Berkeley National Laboratory, Ofc. of the Laboratory Counsel - Patent Department, 1 Cyclotron Road, MS 90B0104, Berkeley, CA 94720-8127 (US).

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(54) Title: SYNTHETIC PEPTIDES THAT CAUSE F-ACTIN BUNDLING AND BLOCK ACTIN DEPOLYMERIZATION

(57) Abstract: Synthetic peptides derived from sucrose synthase, and having homology to actin and actin-related proteins, sharing a common motif, useful for causing actin bundling and preventing actin depolymerization. Peptides exhibiting the common motif are described, as well as specific synthetic peptides which caused bundled actin and inhibit actin depolymerization. These peptides can be useful for treating a subject suffering from a disease characterized by cells having neoplastic growth, for anti-cancer therapeutics, delivered to subjects solely, or concomitantly or sequentially with other known cancer therapeutics. These peptides can also be used for stabilizing microfilaments in living cells and inhibiting growth of cells.